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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/797,640	03/10/2004	D. Ryan Breese	88-2071A	4212
24114	7590	05/03/2006	EXAMINER	
LYONDELL CHEMICAL COMPANY			AN, SANG WOOK	
3801 WEST CHESTER PIKE			ART UNIT	
NEWTOWN SQUARE, PA 19073			PAPER NUMBER	

1732

DATE MAILED: 05/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/797,640	Applicant(s) BREESE, D. RYAN	
	Examiner Sang W. An	Art Unit 1732	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 June 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>6/18/04, 6/27/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bader et al (WO 95/15256) in view of Gonioukh et al (20040214971) and applicant's admitted prior art (see specification pg 1 lines 9-19).

Regarding claim 1, Bader et al teach a method comprising orienting a multilayer film in the machine direction at a draw-down ratio (page 11 lines 22-31; page 12 lines 4-11) wherein the film comprises at least one layer of a linear low density polyethylene (LLDPE) and at least one layer of a high density polyethylene (HDPE) or a medium density polyethylene (MDPE) (claim 1). However, Bader et al do not explicitly teach a draw-down ratio effective to give the film a dart-drop strength that increases with increasing draw-down ratio. Nonetheless, Gonioukh et al teach increasing dart-drop strength with increasing draw-down ratio (Table 2). Comparative examples 1 and C have similar experimental conditions such as similar temperature, pressure, and output. However, it is clear that as the draw-down ratio nearly doubles from Example C to 1, the dart-drop strength also increases by approximately 50%. Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to use the teachings of

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Gonioukh et al in Bader et al's method of orienting a multilayer film in order to produce a more resilient product.

Regarding claims 2-4, the claimed ranges of densities are intrinsic properties of polyethylene and are also cited in the applicant's background section as prior art under ASTM D4976-98: Standard Specification for Polyethylene Plastic Molding and Extrusion Materials.

Regarding claim 5, Bader et al do not explicitly teach that the film is oriented at a draw-down ratio effective to cause the film delaminating. However, discovering the optimum value of a result effective variable involves only routine skill in the art "In re Boesch," 617 F.2d 272,205 USPQ215 (COPA 1980).

Regarding claim 6, Bader et al do not teach that the film is oriented at a draw-down ratio to give the film a dart-drop strength greater than that of the original film. However, Gonioukh et al teach increasing dart-drop strength with increasing draw-down ratio (Table 2). Comparative examples 1 and C have similar experimental conditions such as similar temperature, pressure, and output. However, it is clear that as the draw-down ratio nearly doubles from Example C to 1, the dart-drop strength also increases by approximately 50%. Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to use the teachings of Gonioukh et al in Bader et al's method of orienting a multilayer film in order to produce a more resilient product.

Regarding claims 7-9, the claimed ranges of molecular weights are known properties of polyethylene as also cited in the applicant's background section as prior

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art under ASTM D4976-98: Standard Specification for Polyethylene Plastic Molding and Extrusion Materials. Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to use the claimed molecular weights in order to achieve a desired material property such as hardness, flexibility, or melting point.

Regarding claims 10-12, the claimed ranges of number average molecular weights are known properties of polyethylene as evidenced by Sigma-Aldrich's product catalog. Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to use the claimed molecular weights in order to achieve a desired material property such as hardness, flexibility, or melting point.

Regarding claims 13 and 14, these claims are being treated as product by process claims. See MPEP § 2113 and the corresponding rejection from which they depend on. As such, the product limitation of oriented MD film with dart-drop strength that increases with increasing draw-down ratio is obvious as indicated in the rejections above.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sang W. An whose telephone number is (571) 272-1997. The examiner can normally be reached on Mon-Fri 7 AM - 3:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Colaianni can be reached on (571) 272-1196. The fax phone

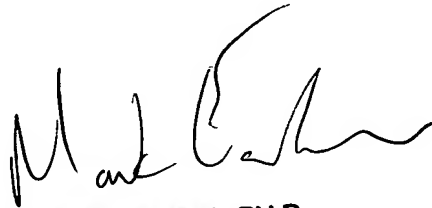
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number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Sang Wook An
Patent Examiner
Art Unit 1732
April 11, 2006

SWA



MARK EASHOO, PH.D
PRIMARY EXAMINER

17/Apr/06